

INDUSTRIAL TECHNOLOGY

Course Title	Course #	Credit	Level	Prerequisite	NCAA
WOODWORKING I					
Fee: \$30.00 safety glasses required	45400	0.5	9-12	None	No
This course serves as an introduction to woodworking methods, properties of wood and wood products, and a strong foundation for safe and effective use of woodworking tools and machinery. The areas covered in this course include wood finishing, lamination, wood identification, and safety. Projects include, but are not limited to, jewelry boxes, pen making, wall shelves, chess and cutting boards. <i>Meets Graduation Requirements in: Practical Arts.</i>					
WOODWORKING II					
Fee: \$30.00 plus project cost safety glasses required	45410	0.5	9-12	Woods I	No
This is an advanced level course for individuals who are interested in progressing their wood working skills and core knowledge. Emphasis will be placed on individual design and construction of a variety of projects, such as laminates and small furniture construction. Projects may include, but are not limited to: bowl making, designer boxes, advanced pen making, wall shelves and organizers. <i>Meets Graduation Requirements in: Practical Arts.</i>					
TECH LAB I					
Fee: \$35.00	30700	0.5	9-12	See Below	No
Prerequisite: Recommend completion of Information Processing I or Tech Lab in middle school. The course is designed to help students: 1) Develop logical thinking and problem solving skill 2) Introduce them to the state-of-art technology and its applications 3) Enter technology fields and 4) Enable them to apply technology in a variety of careers. Students will have an introduction to robotics, science and math simulations, manufacturing and production technology (including electronics, pneumatics, computer-aided design/drafting (CAD), and product design), and data acquisition for analysis. Students will also learn about programming, graphics design, and desktop publishing. <i>Meets Graduation Requirements in: Practical Arts.</i>					
TECH LAB II					
Fee: \$35.00	30705	0.5	9-12	See Below	No
Prerequisite: Successful completion of Technology Lab I and teacher approval. Students will focus on two to three career specialties. The options are computer graphics and design, electronics, CAD, computer simulations, multimedia and video production, or control technology. The students will focus on all aspects of the industry and will choose which area they focus on. <i>Meets Graduation Requirements in: Practical Arts.</i>					
BASIC ELECTRONICS					
Fee: \$30.00 plus project cost safety glasses required	45625	0.5	9-12	None	No
This course is designed for those students that want to learn about electricity/electronics. At the completion of this course the student should know how to: 1) Safely approach electrical circuitry 2) Identify basic electrical components, circuits, integrated circuits and their functions 3) Draw schematics that accurately depict electrical circuitry 4) Use a protoboard to assemble circuits that can produce sound, light, motion, and heat 5) Use meters to measure voltage, resistance, and current 6) Produce and assemble circuit board technology. Whether the students are college bound or vocationally focused, this course will give them a firm grasp of electronics and will help them to succeed in further course work. This course can be enhanced by taking Computer Electronics. <i>Meets Graduation Requirements in: Practical Arts.</i>					
COMPUTER ELECTRONICS					
Fee: \$30.00 plus project cost	45600	0.5	9-12	Basic Elec	No
This course is designed for students who want to study electronics as it is applied to computer technology. At the completion of this class the student should know: 1) The history of computers 2) The basic internal and peripheral components of a computer; 3) How a computer microprocessor functions, and the assembly thereof 4) Basic machine languages such as Binary, Hexadecimal, and Basic. Each student will examine and build circuitry consisting of solid state and integrated components that will use Gate Technology to produce self-actuating microprocessors. This course is a must for students pursuing engineering, technology, or computer science as a college major. This course can be enhanced by taking a computer repair independent study course, attending the TH Pickens center, or Arapahoe Community College for vocational classes. <i>Meets Graduation Requirements in: Practical Arts.</i>					

Course Title	Course #	Credit	Level	Prerequisite	NCAA
TECH DRAFT I	45435	0.5	9-12	None	No
Fee: \$40.00	<p>Tech Drafting I is the first semester of two courses. This course will introduce basic graphic communication skills with pencil and paper. The students will gain knowledge of the industry expectations and specifications of Technical Drafting concepts such as; orthographic, isometric, dimensioning, perspectives and reading technical information from spec. books and drawings as well as common sketching practices. At the completion of this course the students will know how to: 1) Draw, dimension, and design objects for the purpose of production. 2) Use pencil and paper to produce sketches and production drawings. 3) Apply industry standard drafting skills to drawing applications that will lead to drafting as a career. This course is certified by the Colorado Community College and Occupational Education System (CCCOES) as a "Career and Technology" course (aka Vocational Studies). Technical Drafting is a must for any student pursuing an Engineering Degree or Construction Management Program in a College or University. This content may be enhanced by taking a second year of Architectural Drafting or Drafting Applications. <i>Meets Graduation Requirements in: Practical Arts.</i></p>				
TECH DRAFT II	45445	0.5	9-12	Tech Draft I	No
Fee: \$40.00	<p>Tech Drafting II is the second semester usually taken in the same year as Tech Drafting I. This course ties in all of the drafting concepts from first semester and teaches students to use Computer Aided Drafting (CAD) software to create industrial design drawings. The students are introduced to the AutoCAD and Solidworks Computer Aided Drafting software. This course is the first semester of a 3 semester curriculum that the Colorado Community College and Occupational Education System (CCCOES) has certified as a "Career and Technology" training course for vocational level skill competency in CAD. This course is a comprehensive introduction and overview of basic 2 dimensional drawing. At the completion of this course the students will know how to: 1) Use a Computer Aided Drafting (CAD) system (i.e., TurboCAD, AutoCAD, Solidworks) to produce 2D production drawings. 2) Apply first semester introduction to Industry Drafting to CAD systems. These Technical Drafting Courses are a must for any student pursuing an Engineering Degree or Construction Management Program in the College Construction Management Program in the College or University. This content may be enhanced by taking a second year of Architectural Drafting or Drafting Applications. <i>Meets Graduation Requirements in: Practical Arts.</i></p>				
ARCH DRAFT	45465	0.5	10-12	Tech Draft I	No
Fee: \$20.00	<p>This course is designed to teach students what is involved in a complete Industry Standard set of architectural design plans. The first quarter is learning the standards and second quarter is set aside for the design and drawing of a single family residential home. At the end of this course the student should know: 1) Classic architecture styles and good design concepts 2) How to generate 2D and 3D computer drawings that will meet industry standards 3) Examine reference materials to access information to design residential structure that would meet Universal Building Code. This course is dedicated to the specific content area of architecture, however the curriculum delves deeper into CAD techniques and capabilities. This course, in conjunction with Advanced Design CAD, is certified by the Colorado Community College and Occupational Education System (CCCOES) as a "Career and Technology" course level 2 (a.k.a. Vocational). <i>Meets Graduation Requirements in: Practical Arts.</i></p>				
ADVANCED DESIGN CAD	45485	0.5	10-12	None	No
Fee: \$20.00 plus project cost	<p>Advanced Design CAD is a course designed to meet the need of the student by catering the coursework to match his/her focus in college for any engineering or technology degree. Course work is available for electrical, civil, architectural, and mechanical drafting. This course will include both board drawing and Computer Aided Drafting (CAD) to give the students a comprehensive understanding of both styles of graphics. At the end of this course the student should know: 1) Complex concepts of design in a specified area of focus 2) How to generate complex 2D and 3D computer drawings that will meet industry standards 3) Examine reference materials to access information to design product that will meet certain specifications. This course is designed to provide students the opportunity to explore the process of designing, developing, and drawing plans that can be used to manufacture a specified product. The curriculum delves deeper into CAD techniques and capabilities. This course, in conjunction with architectural drafting, is certified by the Colorado Community College and Occupational Education System (CCCOES) as a "Career and Technology" course level 2 (a.k.a. Vocational). <i>Meets Graduation Requirements in: Practical Arts.</i></p>				

CONSUMER AUTO		45750	0.5	10-12	None	No
Fee: \$30.00 plus project cost safety glasses required	This course is designed to give the students knowledge of the basic systems required in the Automotive Repair industry. Within this course several automotive systems are covered with a strong emphasis on safety. Student will receive hands on training with all of the required equipment for a career in the Automotive Industry. Coursework is designed to apply to several post-secondary automotive programs. This course includes but is not limited to shop safety and tools, vehicle maintenance, automotive electrical system fundamentals, Onboard vehicle diagnostics and repair, basic steering and suspension fundamentals and OSHA regulations and requirements. <i>Meets Graduation Requirements in: Practical Arts.</i>					
AUTOMOTIVE SYSTEMS		45775	0.5	10-12	Auto.Tech I	No
Fee: \$30.00 plus project cost	This course applies all knowledge from Automotive Systems I and expands on several systems of automotive repair. This course is made up of more than 60% hands on training with emphasis on several automotive systems. This course includes shop safety, advanced onboard computer diagnostics and troubleshooting, hydraulic and brake systems, vehicle drivability and performance, suspension, steering and engine fundamentals. This coursework is designed to incorporate with several post-secondary automotive programs. <i>Meets Graduation Requirements in: Practical Arts.</i>					